

## ABSTRACT OF THE DISCLOSURE

5 A data transfer apparatus for transferring data between a system bus and a local bus at a high speed is provided. A bus bridge 101 is connected between a system bus 132 and a local bus 137. Data transferred between a CPU 133, an I/O device 136 and a main memory 135 on the system bus 132 are retained in an associative memory 106 via an associative memory control unit 105. When an access to this data from an I/O device 138 on the local bus 137 is generated, the data are transferred from the associative memory 106 to the I/O device 138. Thus, when a data transfer request from the I/O device 138 to the main memory 135 is generated, no bus cycle is generated on the system bus 132 as long as this data are retained in the associative memory 106. Consequently, the data can be transferred at a high speed.

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